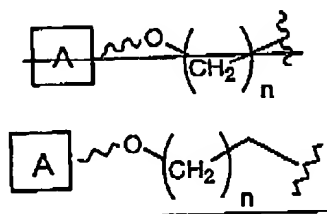


AMENDMENTS TO THE CLAIMS

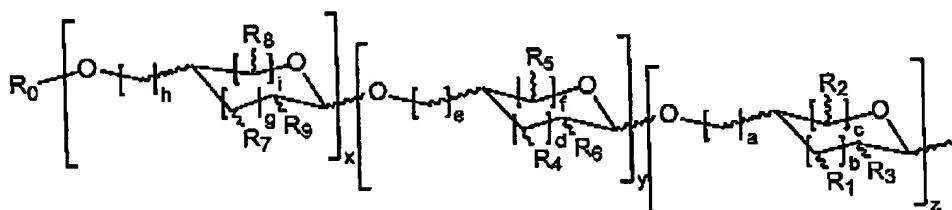
This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-55: Canceled

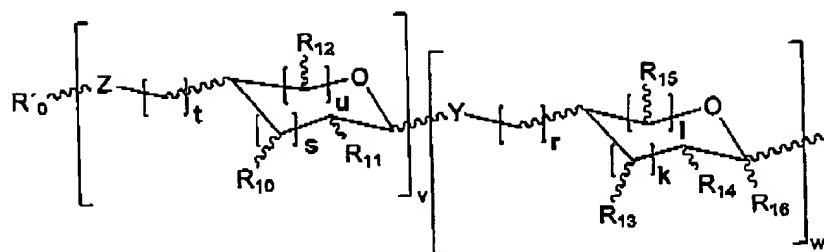
56. (Currently Amended) A multi-antigenic glycopeptide comprising a peptidic backbone made up of at least three amino acid residues, wherein two or more of said amino acids is independently substituted with a glycosidic moiety having the structure:



wherein each occurrence of A is a carbohydrate determinant having the structure:



wherein a, b, c, d, e, f, g, h, i, x, y and z are independently 0, 1, 2 or 3, with the proviso that the x, y and z bracketed structures represent pyranose moieties and the sum of b and c is 2, the sum of d and f is 2, and the sum of g and i is 2, and with the proviso that x, y and z are not simultaneously 0; wherein R₀ is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈ and R₉ is independently hydrogen, OH, ORⁱ, NHRⁱ, NHCORⁱ, F, CH₂OH, CH₂ORⁱ, a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of Rⁱ is independently hydrogen, CHO, COORⁱⁱ, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group or a saccharide moiety having the structure:



wherein Y and Z are independently NH or O; wherein k, l, r, s, t, u, v and w are each independently 0, 1 or 2; with the proviso that the v and w bracketed structures represent pyranose moieties and the sum of l and k is 1 or 2, and the sum of s and u is 1 or 2, and with the proviso that v and w are not simultaneously 0; wherein Rⁱ is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R₁₀, R₁₁, R₁₂, R₁₃, R₁₄ and R₁₅ is independently hydrogen, OH, ORⁱⁱⁱ, NHRⁱⁱⁱ, NHCORⁱⁱⁱ, F, CH₂OH, CH₂ORⁱⁱⁱ, or a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R₁₆ is hydrogen, COOH, COORⁱⁱ, CONHRⁱⁱ, a substituted or unsubstituted linear or branched chain alkyl or aryl group; wherein each occurrence of Rⁱⁱⁱ is hydrogen, CHO, COOR^{iv}, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group; and wherein each occurrence of Rⁱⁱ and R^{iv} are each independently H, or a substituted or unsubstituted linear or branched chain alkyl, arylalkyl or aryl group;

wherein each occurrence of n is independently 0-9 n is independently 1-8 and, whereby, if for each occurrence of n, n=0, at least one occurrence of A has a different structure from other occurrences of A.

57. (Canceled)

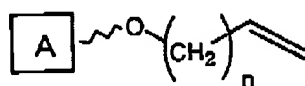
58. (Previously Presented) The glycopeptide of claim 56 wherein the glycopeptide is bound to an immunostimulant carrier protein, peptide or lipid.

59. (Previously Presented) The glycopeptide of claim 58 wherein the carrier protein is bovine serum albumin, polylysine or keyhole limpet hemocyanin.

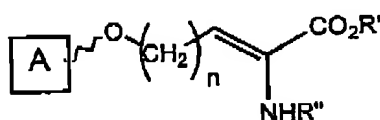
60. (Previously Presented) The glycopeptide of claim 58 wherein the lipid is tripalmitoyl-S-glycerylcysteinylserine.

61. (Currently Amended) The glycopeptide of claim 56 wherein the amino acids substituted with an n-alkyl glycosidic moiety are prepared by a process comprising steps of:

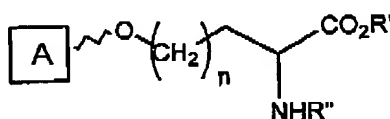
(a) providing an alkenyl glycoside having the structure:



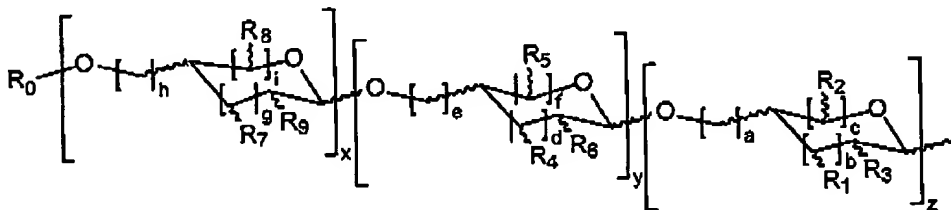
and reacting said alkenyl glycoside under suitable conditions to generate an enamide ester having the structure:



(b) reacting said enamide ester under suitable conditions to generate a glycoamino acid having the structure:

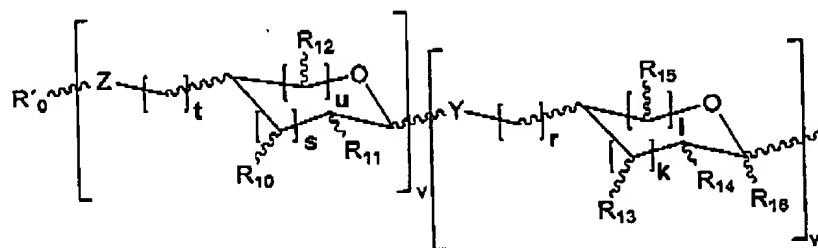


wherein, for each of the structures above, ~~n is 0-9~~ n is 1-8, wherein A is a carbohydrate domain having the structure:



wherein a, b, c, d, e, f, g, h, i, x, y and z are independently 0, 1, 2 or 3, with the proviso that the x, y and z bracketed structures represent pyranose moieties and the sum of b and c is 2, the sum of d and f is 2, and the sum of g and i is 2, and with the proviso that x, y and z are not

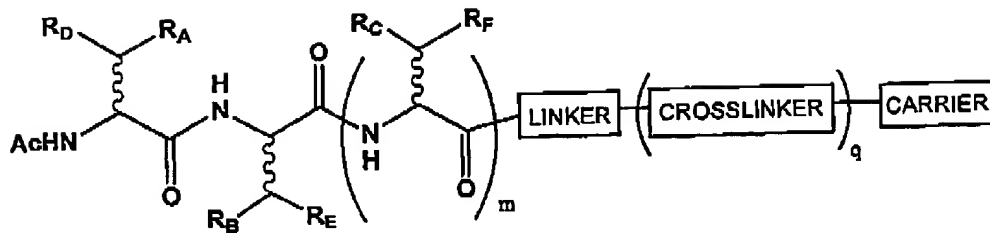
simultaneously 0; wherein R_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of $R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8$ and R_9 is independently hydrogen, OH, OR^i , NHR^i , $NHCOR^i$, F, CH_2OH , CH_2OR^i , a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R^i is independently hydrogen, CHO, $COOR^{ii}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group or a saccharide moiety having the structure:



wherein Y and Z are independently NH or O; wherein k, l, r, s, t, u, v and w are each independently 0, 1 or 2; with the proviso that the v and w bracketed structures represent pyranose moieties and the sum of l and k is 1 or 2, and the sum of s and u is 1 or 2, and with the proviso that v and w are not simultaneously 0; wherein R'_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of $R_{10}, R_{11}, R_{12}, R_{13}, R_{14}$ and R_{15} is independently hydrogen, OH, OR^{iii} , NHR^{iii} , $NHCOR^{iii}$, F, CH_2OH , CH_2OR^{iii} , or a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R_{16} is hydrogen, COOH, $COOR^{ii}$, $CONHR^{ii}$, a substituted or unsubstituted linear or branched chain alkyl or aryl group; wherein each occurrence of R^{iii} is hydrogen, CHO, $COOR^{iv}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group; and wherein each occurrence of R^{ii} and R^{iv} are each independently H, or a substituted or unsubstituted linear or branched chain alkyl, arylalkyl or aryl group;

and wherein for the glycoamino acid structure R' and R'' are each independently protecting group or hydrogen.

62. (Currently Amended) The glycopeptide of claim 56, wherein said glycopeptide is a construct having the structure:



wherein the linker is $-O-$, $-NR_G-$, $-NR_G(CR_HR_I)_kNR_J-$, $-NR_G(CR_HR_I)_kNR_J(C=O)(CR_HR_I)_kS-$, $-(CR_HR_I)_kNR_J-$, $-O(CR_HR_I)_kNR_J$, an oligoester fragment comprising from 2 to about 20 hydroxy acyl residues, a peptidic fragment comprising from 2 to about 20 amino acyl residues, or a linear or branched chain alkyl or aryl carboxylic ester; wherein each occurrence of k is independently 1-5; and each occurrence of R_G , R_H , R_I and R_J is independently hydrogen, a linear or branched, substituted or unsubstituted, cyclic or acyclic alkyl moiety, or a substituted or unsubstituted aryl moiety;

wherein the crosslinker is a moiety derived from a crosslinking reagent capable of conjugating a surface amine of the carrier with a terminal thiol of the linker;

wherein the carrier is a protein or lipid;

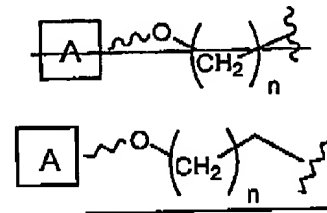
wherein m is 1, 2 or 3;

wherein q is 0 or 1;

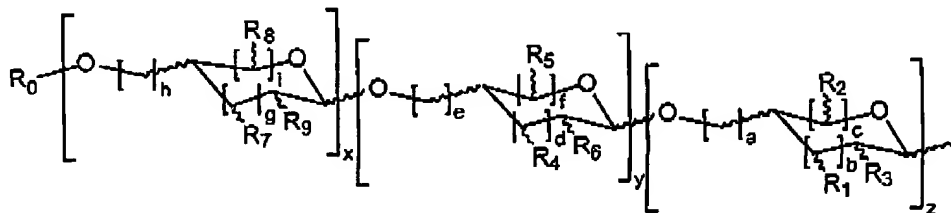
wherein each occurrence of R_A , R_B and R_C is independently H or methyl; and

wherein each occurrence of R_D , R_E and R_F is independently an alkyl glycosidic moiety

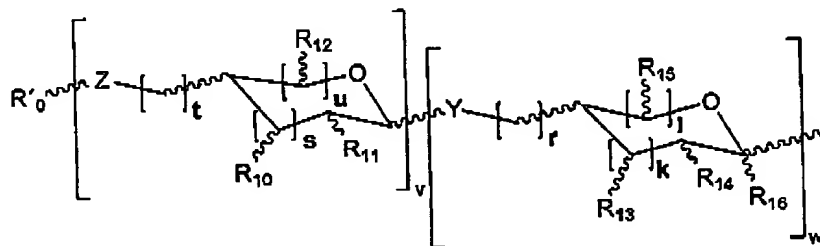
having the structure:



wherein each occurrence of A is independently selected from a carbohydrate domain having the structure:



wherein a, b, c, d, e, f, g, h, i, x, y and z are independently 0, 1, 2 or 3, with the proviso that R_D , R_E and R_F are carbohydrates independently comprised of pyranose moieties, and the sum of b and c is 2, the sum of d and f is 2, and the sum of g and i is 2, and with the proviso that x, y and z are not simultaneously 0; wherein R_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 and R_9 is independently hydrogen, OH, OR^i , NHR^i , $NHCOR^i$, F, CH_2OH , CH_2OR^i , a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R^i is independently hydrogen, CHO, $COOR^{ii}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group or a saccharide moiety having the structure:



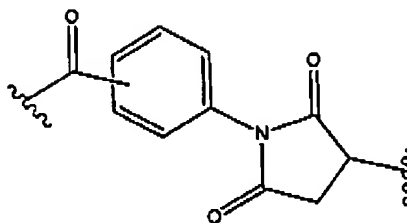
wherein Y and Z are independently NH or O; wherein k, l, r, s, t, u, v and w are each independently 0, 1 or 2; with the proviso that the v and w bracketed structures represent pyranose moieties and the sum of l and k is 1 or 2, and the sum of s and u is 1 or 2, and with the proviso that v and w are not simultaneously 0; wherein R'_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R_{10} , R_{11} , R_{12} , R_{13} , R_{14} and R_{15} is independently hydrogen, OH, OR^{iii} , NHR^{iii} , $NHCOR^{iii}$, F, CH_2OH , CH_2OR^{iii} , or a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R_{16} is hydrogen, COOH, $COOR^{ii}$, $CONHR^{ii}$, a substituted or unsubstituted linear or branched chain alkyl or aryl group; wherein each occurrence of R^{iii} is hydrogen, CHO, $COOR^{iv}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group; and wherein each occurrence of R^{ii} and R^{iv} are each independently H, or a substituted or unsubstituted linear or branched chain alkyl, arylalkyl or aryl group;

wherein each occurrence of ~~n is independently 0-9~~ n is independently 1-8 and, ~~whereby, if for each occurrence of n, n=0, at least one occurrence of A has a different structure from other occurrences of A; and wherein the n-alkyl glycosidic moiety is either α or β linked to an amine acid.~~

63. (Canceled)

64. (Canceled)

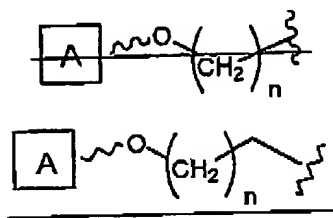
65. (Previously Presented) The construct of claim 62, wherein the crosslinker is a fragment having the structure:



whereby said structure is generated upon conjugation of maleimidobenzoic acid N-hydroxy succinimide ester with a linker.

66. (Previously Presented) The construct of claim 62, wherein m is 1 and the construct has three occurrences of A comprising Tn, Globo-H and Le^y.

67. (Currently Amended) The glycopeptide of claim 56 wherein the glycopeptide has six occurrences of the alkyl glycosidic moiety having the structure:



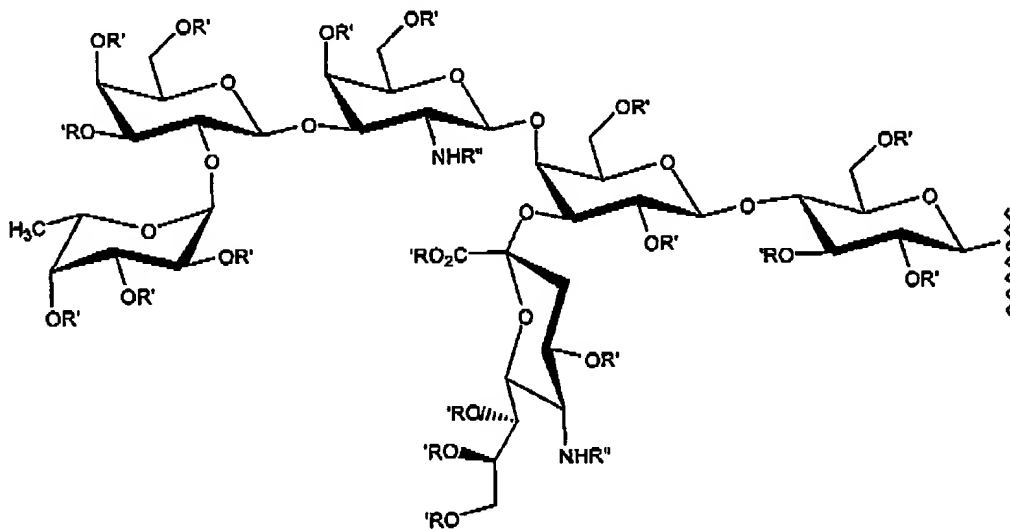
68. (Canceled)

69. (Previously Presented) The glycopeptide of claim 56 or 67 or the construct of claim 62, wherein each occurrence of A is independently Globo-H, fucosyl GM1, KH-1, glycophorin, STN, Le^y, N3, Tn, 2,6-STn, (2,3)ST, or TF.

70. (Previously Presented) The construct of claim 62 wherein the carrier is bovine serum albumin, polylysine or keyhole limpet hemocyanin.

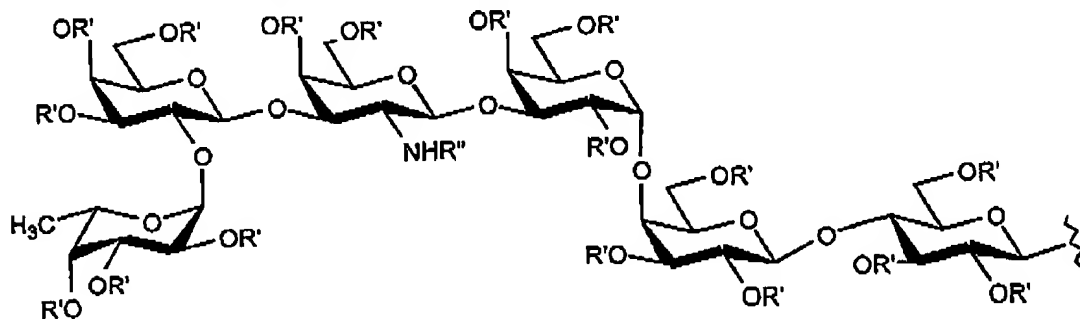
71. (Previously Presented) The construct of claim 62 wherein the carrier is tripalmitoyl-S-glycerylcysteinylserine.

72. (Previously Presented) The glycopeptide of claim 56 or 67 or the construct of claim 62, wherein at least one occurrence of A is a carbohydrate determinant having the structure:



wherein each occurrence of R' is independently hydrogen or a protecting group; and wherein each occurrence of R'' is independently hydrogen or a nitrogen protecting group.

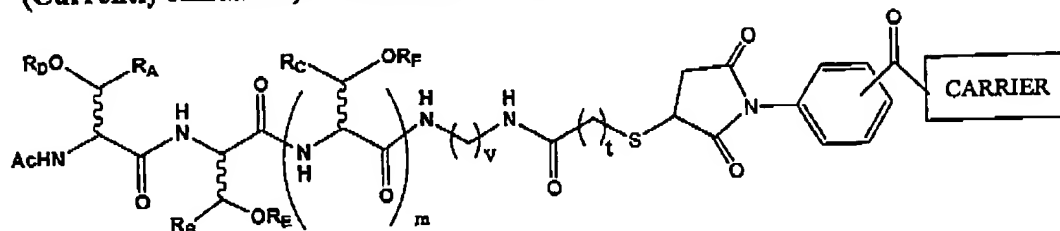
73. (Previously Presented) The glycopeptide of claim 56 or 67 or the construct of claim 62, wherein at least one occurrence of A is a carbohydrate determinant having the structure:



wherein each occurrence of R' is independently hydrogen or a protecting group; and

wherein R'' is hydrogen or a nitrogen protecting group.

74. (Currently Amended) The construct of claim 62 having the structure:



wherein R_A, R_B and R_C are each independently H or methyl;

m is 1, 2 or 3;

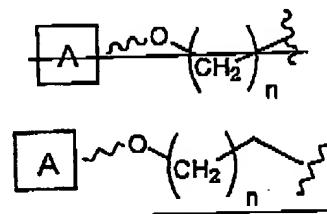
v is 1-8;

t is 1-8; and

the carrier is a protein;

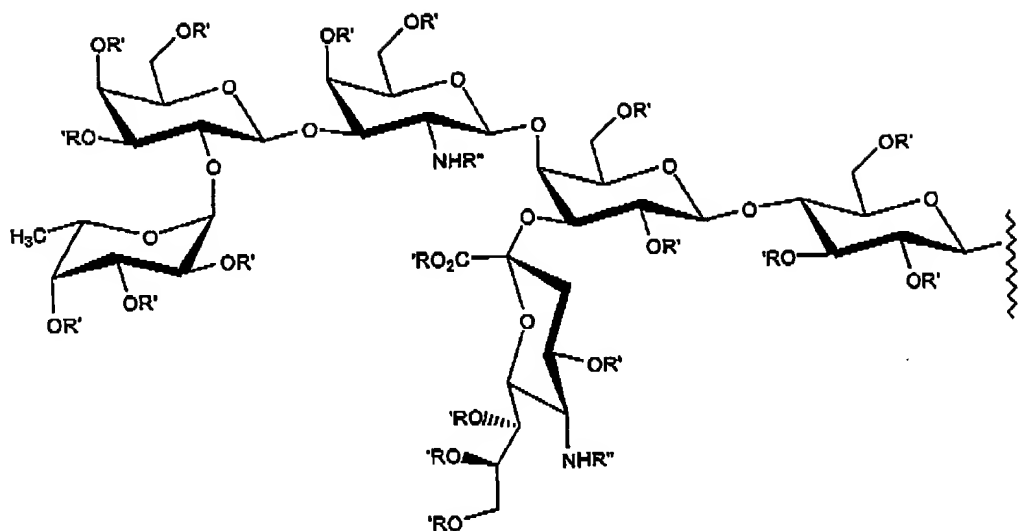
wherein each occurrence of R_D, R_E and R_F is independently an alkyl glycosidic moiety

having the structure:

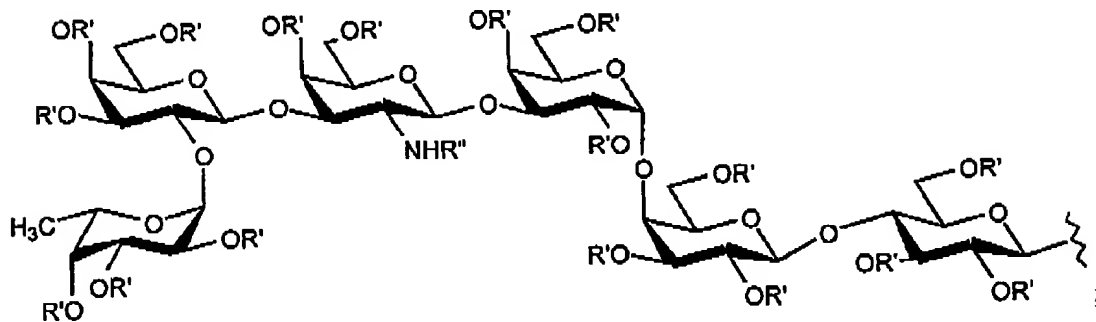


wherein ~~n is 0-9~~ n is 1-8;

each occurrence of A is independently a carbohydrate domain selected from the group consisting of Globo-H, fucosyl GM1, KH-1, glycophorin, STN, Le^y, N3, Tn, 2,6-STn, (2,3)ST, or TF, a carbohydrate domain having the structure:



or a carbohydrate domain having the structure:



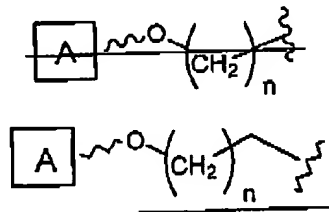
wherein each occurrence of R' is independently hydrogen or a protecting group; and wherein R'' is hydrogen or a nitrogen protecting group

whereby, ~~if for each occurrence of n, n = 0, at least one occurrence of A has a different structure from other occurrences of A; and wherein the n-alkyl glycosidic moiety is either α or β linked to an amino acid.~~

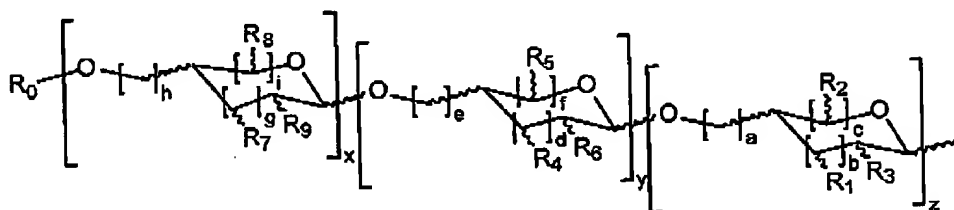
75. (Previously Presented) The construct of claim 74, wherein the protein is bovine serum albumin, polylysine or keyhole limpet hemocyanin.

76. (Currently Amended) A pharmaceutical composition comprising:
one or more immunological adjuvants and/or a pharmaceutically suitable carrier; and

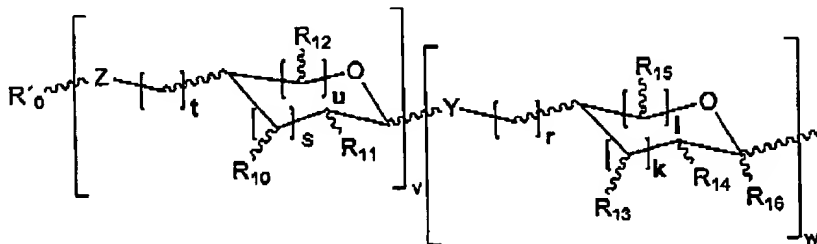
a multi-antigenic glycopeptide comprising a peptidic backbone made up of at least three amino acid residues, wherein two or more of said amino acids is independently substituted with a glycosidic moiety having the structure:



wherein each occurrence of A is a carbohydrate determinant having the structure:



wherein a, b, c, d, e, f, g, h, i, x, y and z are independently 0, 1, 2 or 3, with the proviso that the x, y and z bracketed structures represent pyranose moieties and the sum of b and c is 2, the sum of d and f is 2, and the sum of g and i is 2, and with the proviso that x, y and z are not simultaneously 0; wherein R₀ is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈ and R₉ is independently hydrogen, OH, ORⁱ, NHRⁱ, NHCORⁱ, F, CH₂OH, CH₂ORⁱ, a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of Rⁱ is independently hydrogen, CHO, COORⁱⁱ, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group or a saccharide moiety having the structure:



wherein Y and Z are independently NH or O; wherein k, l, r, s, t, u, v and w are each independently 0, 1 or 2; with the proviso that the v and w bracketed structures represent pyranose

moieties and the sum of l and k is 1 or 2, and the sum of s and u is 1 or 2, and with the proviso that v and w are not simultaneously 0; wherein Rⁱ is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R₁₀, R₁₁, R₁₂, R₁₃, R₁₄ and R₁₅ is independently hydrogen, OH, ORⁱⁱⁱ, NHRⁱⁱⁱ, NHCORⁱⁱⁱ, F, CH₂OH, CH₂ORⁱⁱⁱ, or a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R₁₆ is hydrogen, COOH, COORⁱⁱ, CONHRⁱⁱ, a substituted or unsubstituted linear or branched chain alkyl or aryl group; wherein each occurrence of Rⁱⁱⁱ is hydrogen, CHO, COOR^{iv}, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group; and wherein each occurrence of Rⁱⁱ and R^{iv} are each independently H, or a substituted or unsubstituted linear or branched chain alkyl, arylalkyl or aryl group;

wherein each occurrence of n is independently 0-9 ~~n is independently 1-8 and, whereby, if for each occurrence of n, n=0, at least one occurrence of A has a different structure from other occurrences of A.~~

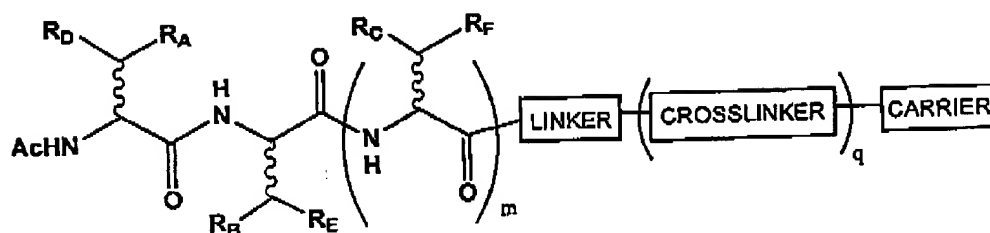
77. (Canceled)

78. (Previously Presented) The pharmaceutical composition of claim 76 wherein the glycopeptide is bound to an immunostimulant carrier protein or lipid.

79. (Previously Presented) The pharmaceutical composition of claim 78 wherein the carrier protein is bovine serum albumin, polylysine or keyhole limpet hemocyanin.

80. (Previously Presented) The pharmaceutical composition of claim 78 wherein the lipid is tripalmitoyl-S-glycerylcysteinylserine.

81. (Currently Amended) The pharmaceutical composition of claim 76, wherein said glycopeptide is a construct having the structure:



wherein the linker is $-O-$, $-NR_G-$, $-NR_G(CR_HR_I)_kNR_J-$, $-NR_G(CR_HR_I)_kNR_J(C=O)(CR_HR_I)_kS-$, $-(CR_HR_I)_kNR_I-$, $-O(CR_HR_I)_kNR_J$, an oligoester fragment comprising from 2 to about 20 hydroxy acyl residues, a peptidic fragment comprising from 2 to about 20 amino acyl residues, or a linear or branched chain alkyl or aryl carboxylic ester; wherein each occurrence of k is independently 1-5; and each occurrence of R_G , R_H , R_I and R_J is independently hydrogen, a linear or branched, substituted or unsubstituted, cyclic or acyclic alkyl moiety, or a substituted or unsubstituted aryl moiety;

wherein the crosslinker is a moiety derived from a crosslinking reagent capable of conjugating a surface amine of the carrier with a terminal thiol of the linker;

wherein the carrier is a protein or lipid;

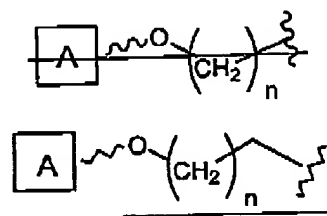
wherein m is 1, 2 or 3;

wherein q is 0 or 1;

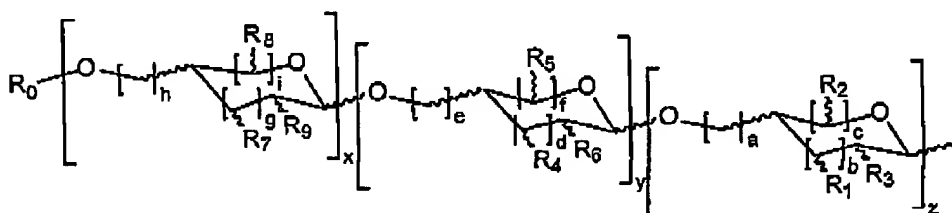
wherein each occurrence of R_A , R_B and R_C is independently H or methyl; and

wherein each occurrence of R_D , R_E and R_F is independently an alkyl glycosidic moiety

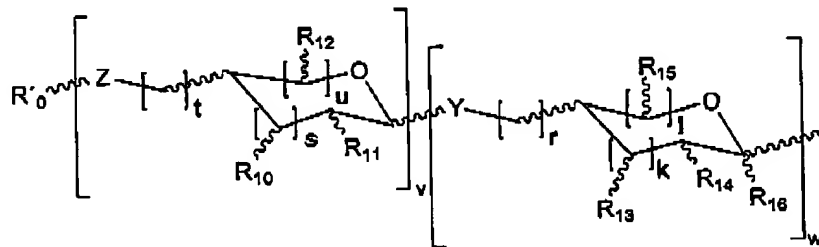
having the structure:



wherein each occurrence of A is independently selected from a carbohydrate domain having the structure:



wherein a, b, c, d, e, f, g, h, i, x, y and z are independently 0, 1, 2 or 3, with the proviso that R_D , R_E and R_F are carbohydrates independently comprised of pyranose moieties, and the sum of b and c is 2, the sum of d and f is 2, and the sum of g and i is 2, and with the proviso that x, y and z are not simultaneously 0; wherein R_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 and R_9 is independently hydrogen, OH, OR^i , NHR^i , $NHCOR^i$, F, CH_2OH , CH_2OR^i , a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R^i is independently hydrogen, CHO, $COOR^{ii}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group or a saccharide moiety having the structure:



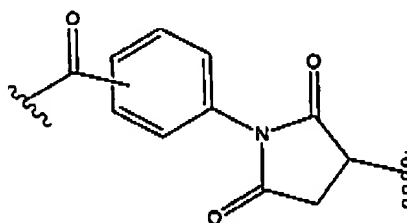
wherein Y and Z are independently NH or O; wherein k, l, r, s, t, u, v and w are each independently 0, 1 or 2; with the proviso that the v and w bracketed structures represent pyranose moieties and the sum of l and k is 1 or 2, and the sum of s and u is 1 or 2, and with the proviso that v and w are not simultaneously 0; wherein R'_0 is hydrogen, a linear or branched chain alkyl, acyl, arylalkyl or aryl group; wherein each occurrence of R_{10} , R_{11} , R_{12} , R_{13} , R_{14} and R_{15} is independently hydrogen, OH, OR^{iii} , NHR^{iii} , $NHCOR^{iii}$, F, CH_2OH , CH_2OR^{iii} , or a substituted or unsubstituted linear or branched chain alkyl, (mono-, di- or tri)hydroxyalkyl, (mono-, di- or tri)acyloxyalkyl, arylalkyl or aryl group; wherein each occurrence of R_{16} is hydrogen, COOH, $COOR^{ii}$, $CONHR^{ii}$, a substituted or unsubstituted linear or branched chain alkyl or aryl group; wherein each occurrence of R^{iii} is hydrogen, CHO, $COOR^{iv}$, or a substituted or unsubstituted linear or branched chain alkyl, acyl, arylalkyl or aryl group; and wherein each occurrence of R^{ii} and R^{iv} are each independently H, or a substituted or unsubstituted linear or branched chain alkyl, arylalkyl or aryl group;

wherein each occurrence of ~~n is independently 0-9~~ n is independently 1-8 and, whereby, if
~~for each occurrence of n, n=0, at least one occurrence of A has a different structure from other~~
~~occurrences of A; and wherein the n-alkyl glycosidic moiety is either α - or β -linked to an amino~~
~~acid.~~

82. (Canceled)

83. (Canceled)

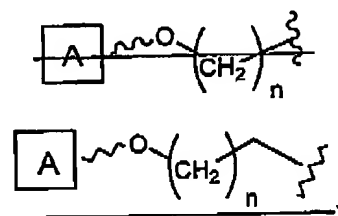
84. (Previously Presented) The pharmaceutical composition of claim 81, wherein the crosslinker is a fragment having the structure:



whereby said structure is generated upon conjugation of maleimidobenzoic acid N-hydroxy succinimide ester with a linker.

85. (Previously Presented) The pharmaceutical composition of claim 81, wherein m is 1 and the construct has three occurrences of A comprising Tn, Globo-H and Le^y.

86. (Previously Presented) The pharmaceutical composition of claim 76, wherein the glycopeptide has six occurrences of the alkyl glycosidic moiety having the structure:



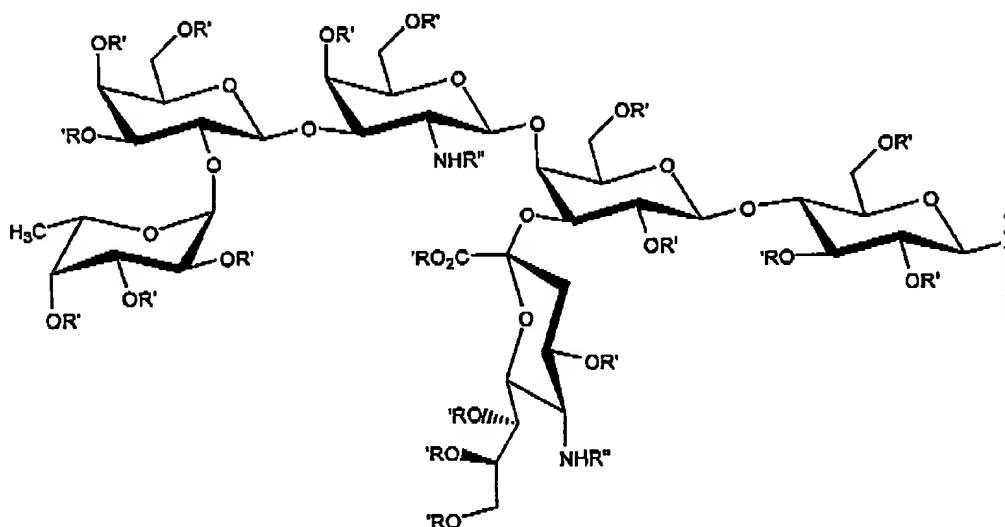
87. (Canceled)

88. (Previously Presented) The pharmaceutical composition of claim 76, 81 or 86, wherein each occurrence of A is independently Globo-H, fucosyl GM1, KH-1, glycophorin, STN, Le^y, N3, Tn, 2,6-STn, (2,3)ST, or TF.

89. (Previously Presented) The pharmaceutical composition of claim 81 or 86 wherein the carrier is bovine serum albumin, polylysine or keyhole limpet hemocyanin.

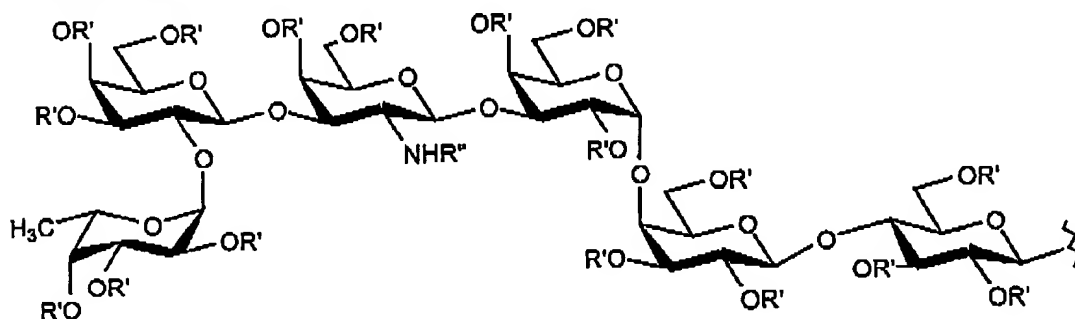
90. (Previously Presented) The pharmaceutical composition of claim 81 or 86 wherein the carrier is tripalmitoyl-S-glycerylcysteinylserine.

91. (Previously Presented) The pharmaceutical composition of claim 76, 81 or 86, wherein at least one occurrence of A is a carbohydrate determinant having the structure:



wherein each occurrence of R' is independently hydrogen or a protecting group; and
wherein each occurrence of R'' is independently hydrogen or a nitrogen protecting group.

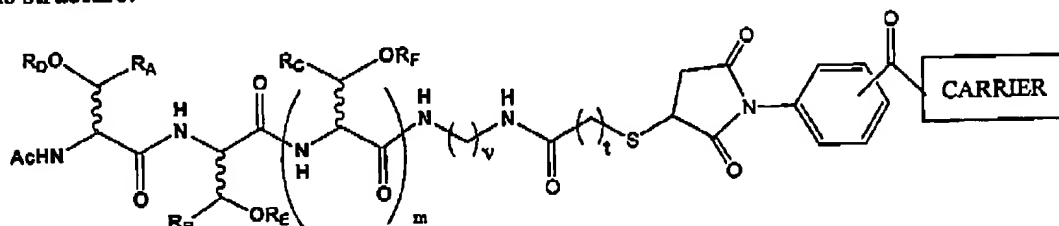
92. (Previously Presented) The pharmaceutical composition of claim 76, 81 or 86, wherein at least one occurrence of A is a carbohydrate determinant having the structure:



wherein each occurrence of R' is independently hydrogen or a protecting group; and

wherein R'' is hydrogen or a nitrogen protecting group.

93. (Currently Amended) The pharmaceutical composition of claim 81, wherein the construct has the structure:



wherein R_A, R_B and R_C are each independently H or methyl;

m is 1, 2 or 3;

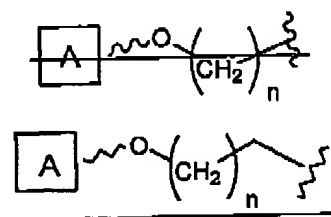
v is 1-8;

t is 1-8; and

the carrier is a protein;

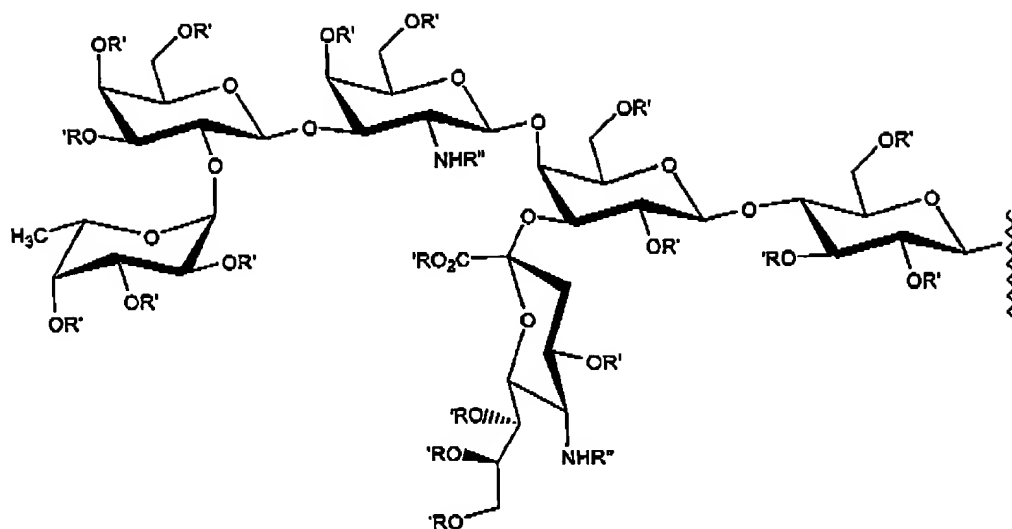
wherein each occurrence of R_D, R_E and R_F is independently an alkyl glycosidic moiety

having the structure:

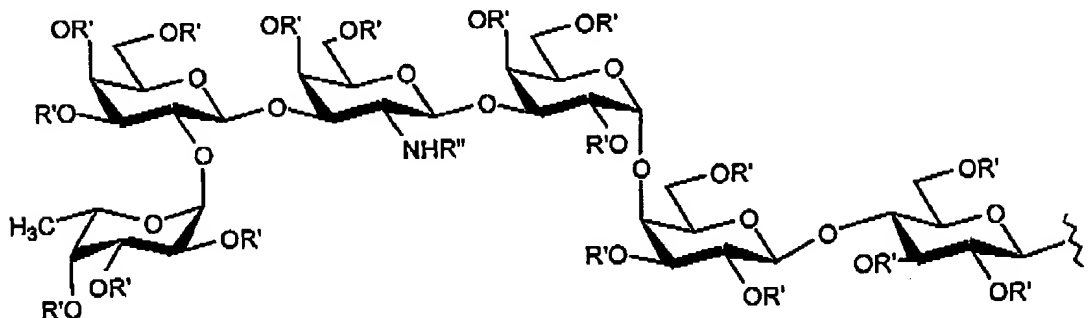


wherein ~~n is 0-9~~ n is 1-8;

each occurrence of A is independently a carbohydrate domain selected from the group consisting of Globo-H, fucosyl GM1, KH-1, glycophorin, STN, Le^y, N3, Tn, 2,6-STn, (2,3)ST, or TF, a carbohydrate domain having the structure:



or a carbohydrate domain having the structure:



wherein each occurrence of R' is independently hydrogen or a protecting group; and
wherein R'' is hydrogen or a nitrogen protecting group

whereby, if for each occurrence of n , $n = 0$, at least one occurrence of A has a different structure from other occurrences of A, and wherein the n -alkyl glycosidic moiety is either α - or β -linked to an amino acid.

94. (Previously Presented) The pharmaceutical composition of claim 93, wherein the protein is bovine serum albumin, polylysine or keyhole limpet hemocyanin.

95. (Previously Presented) The pharmaceutical composition of claim 76 wherein at least one of said one or more immunological adjuvants is a saponin adjuvant.

96. **(Previously Presented)** The pharmaceutical composition of claim 95 wherein the saponin adjuvant is GPI-0100.

97. **(Previously Presented)** The pharmaceutical composition of claim 76 wherein at least one of said one or more immunological adjuvants is bacteria or liposomes.

98. **(Previously Presented)** The pharmaceutical composition of claim 97 wherein the immunological adjuvant is Salmonella minnesota cells, bacille Calmette-Guerin or QS21.